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FILING DATE.**

**APPLICATION NUMBER: 60/461,094**

**FILING DATE: April 08, 2003**

**RELATED PCT APPLICATION NUMBER: PCT/US04/10712**

**By Authority of the  
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*M. Tarver*

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4-9-03  
U.S. Patent

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**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**

**This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).**

**Express Mail Label No.**

**EU 982362462 US**

INVENTOR(S)					
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)			
David Paul Brock Wayne	Brisco Watson	Duncan, Oklahoma Carrollton, Texas			
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
ACTUATOR ASSEMBLY TENSION					
Direct all correspondence to: <span style="float: right;">CORRESPONDENCE ADDRESS</span>					
<input type="checkbox"/> Customer Number <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">000027684</div> <div style="margin-left: 10px;">→</div> <div style="border: 1px solid black; padding: 5px; width: 200px; float: right; text-align: center;">             Place Customer Number Bar Code Label here           </div>		OR			
<input checked="" type="checkbox"/> Firm or Individual Name <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">Todd Mattingly</div>		Type Customer Number here			
Address		1000 Louisiana Street			
Address		Suite 4300			
City	Houston	State	TX	ZIP	77002-5012
Country	USA	Telephone	713-547-2301	Fax	713-236-5585
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">15</div>		<input type="checkbox"/> CD(s), Number <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;"></div>		<input type="checkbox"/> Drawing(s) Number of Sheets <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;"></div>	
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76 <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">Return Receipt Postcard</div>		<input checked="" type="checkbox"/> Other (specify) <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;"></div>			
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<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">08-1394</div>		<input type="checkbox"/> A check or money order is enclosed to cover the filing fees <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">\$160.00</div>		<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;"></div>	
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;"></div>					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

**Respectfully submitted,**

**SIGNATURE**

TYPED or PRINTED NAME Todd Mattingly

TELEPHONE 713-547-2301

Date 04/08/2003

**REGISTRATION NO.**  
*(if appropriate)*  
**Docket Number:**

**40,298**

**EGT-03-03**

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The Provisional Application for Patent Cover Sheet and the following fifteen (15) pages are being deposited with the U.S. Postal Service Express Mail Post Office to Addressee Service under 37 CFR §1.10 on the date indicated above and is addressed to: BOX PROVISIONAL PATENT APPLICATION, Commissioner for Patents, Washington, D.C. 20231

Vikki M. Meinether

Signature of person mailing paper and fee

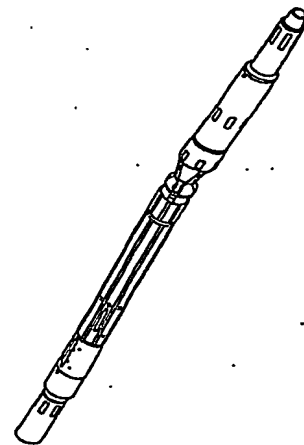
## CASING CUTTER TOOL

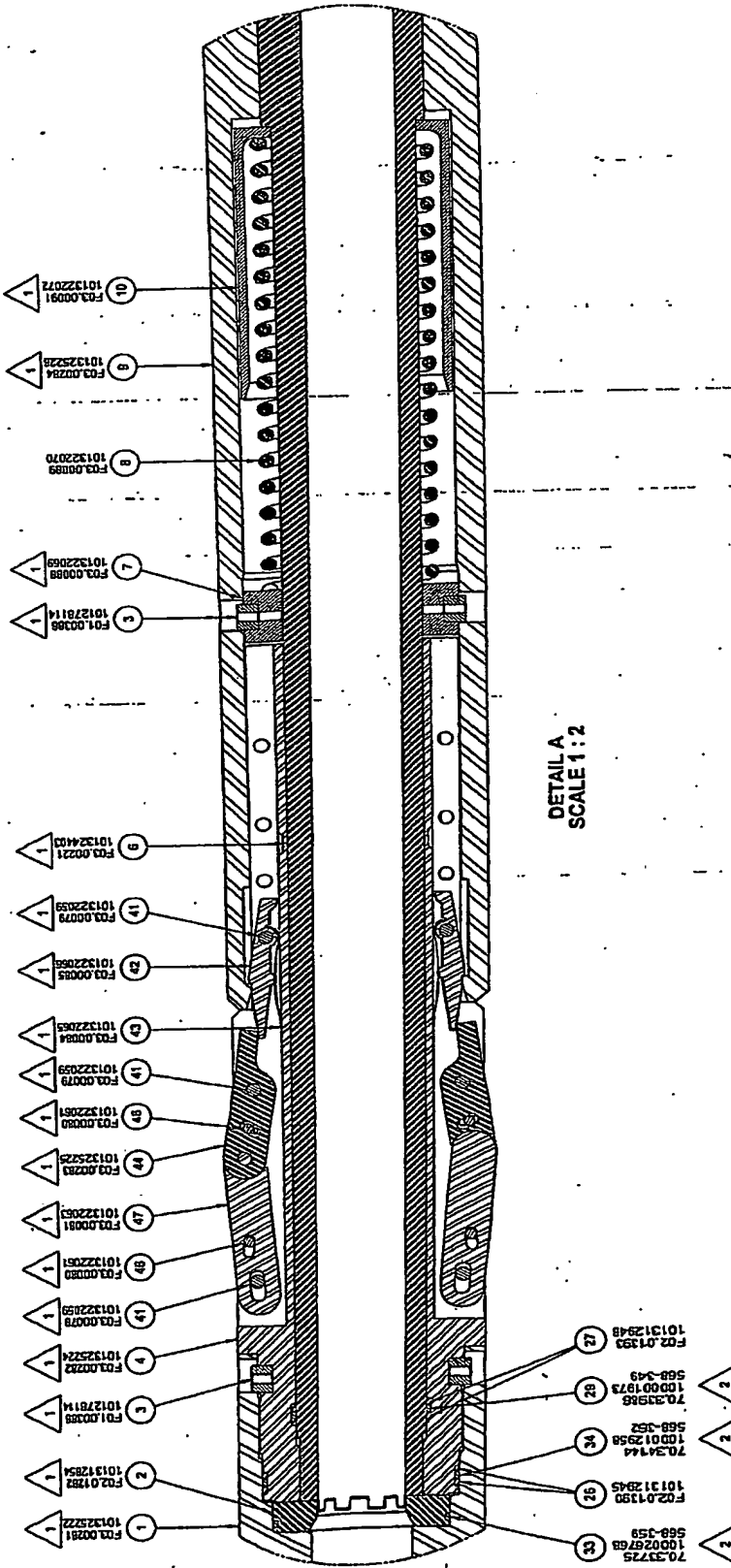
Inventors: David Paul Brisco & Brock Wayne Watson

The casing cutter is a tool used to cut casing at the end of a monodiameter expansion job. Extra casing is always run to insure that the overlap section of the previous casing string is completely covered. The extra casing must be removed so it is cut off. After the cut is complete, the casing will rest on the cutter blades and is carried out of the hole by the cutter.

The operation of the tool is substantially the same as the expandable cone disclosed in (1) U.S. provisional patent application serial no. 60/318,021, attorney docket no. 25791.58, filed on 9/7/2001; (2) PCT patent application serial no. PCT/US02/25608, attorney docket no. 25791.58.02, filed on 8/13/2002; (3) PCT patent application serial no. PCT/US02/24399, attorney docket no. 25791.59.02, filed on 8/1/2002; (4) U.S. provisional patent application serial no. 60/338,996, attorney docket no. 25791.87, filed on 11/12/2001; (5) PCT patent application serial no. PCT/US02/36157, attorney docket no. 25791.87.02, filed on 11/12/2002; (6) U.S. provisional patent application serial no. 60/363,829, attorney docket no. 25791.95, filed 3/31/2002; (7) U.S. provisional patent application serial no. 60/387,486, attorney docket no. 25791.107, filed on 6/10/2002; (8) U.S. provisional patent application serial no. 60/387,961, filed on 6/12/2002; and (9) U.S. provisional patent application serial no. \_\_\_\_\_, attorney docket no. 25791.260, filed on 3/27/2003; the disclosures of which are incorporated herein by reference.

The difference between this tool and the expandable cone is that the cone segments have been replaced with cutter blades. Flow paths were also milled above the cutters to allow debris to be pumped upwards.







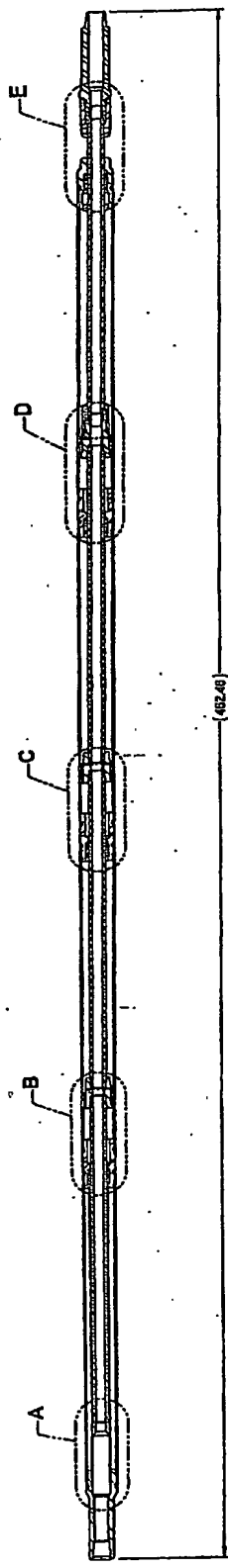
## TENSION ACTUATOR

Inventors: Brock Wayne Watson and David Paul Brisco

The tension actuator will be used in the monodiameter tool string to pull the cone upwards. The actuator will be used to form the bell section and the first part of the expanded casing because we cannot do the normal hydraulic expansion until the packer is set. The actuator will also be used if pressure integrity is lost in the casing below the cone. The actuator may also be used to expand the overlap section to reduce the expansion pressure in this high expansion force region.

This tool will retract when pressure is applied and is extended by pulling on it.



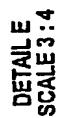




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## 1.1

## BALL GRIPPER

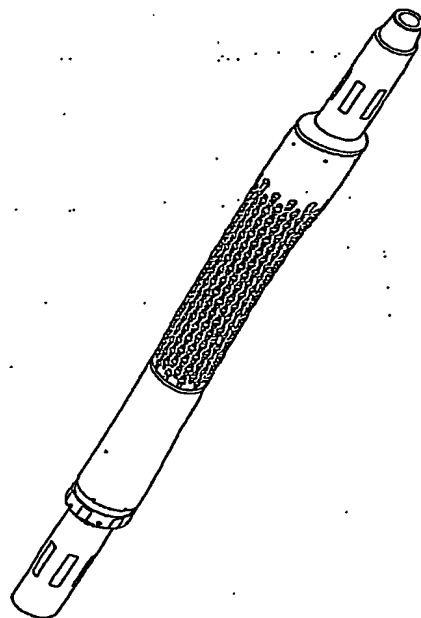
Inventors: David Paul Brisco & Brock Wayne Watson

This tool is used to grip the inside of casing. The gripping method uses balls or rollers that roll between the casing and a ramp until the force acting on the ball is enough to support the axial load applied by the tool string. For small forces the ball grips the casing by friction but at higher loading the ball will form small impressions in the casing that will provide a more positive support.

The tool contains two major springs. One spring tries to activate the tool while the other more powerful spring will try to deactivate a tool. Under normal conditions the balls are held inward by the larger spring and are inactive. When pressure is applied, a piston will move downward to release dogs, pressure will move another piston that will compress the larger spring so that the smaller spring can activate the tool by pushing the outer sleeve upwards. If pressure is released and the force acting on the tool is released, the balls will relax and the piston will move back in their original positions. The springs push the balls against the casing but they apply only a small force. Friction and the ramp cause the balls to be pressed hard against the casing. The tool can only grip in one direction because the ramp is only in one direction.

We chose a ball/roller gripping device because it does a minimum of damage to the casing when it is active and it can be dragged upwards under full pressure without gripping the casing.

The tool will normally be placed above the tension actuator in the mono-diameter tool string and is used to anchor the tension actuator during initial expansion, the overlap expansion, and anytime where pressure integrity of the casing is lost.



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14



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